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| 09/889,966 | 11/08/2001 | Patrick J. Rainsford | U013563-5 | 3160 |
| 27717 | 7590 | 02/23/2006 | EXAMINER | |
| SEYFARTH SHAW LLP 55 E. MONROE STREET SUITE 4200 CHICAGO, IL 60603-5803 | | | CARTER, AARON W | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2625 | |

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/889,966

Applicant(s)

RAINSFORD, PATRICK J.

Examiner

Aaron W. Carter

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18, 21 and 24-28 is/are rejected.
- 7) ☒ Claim(s) 19, 20, 22 and 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

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2. The disclosure is objected to because of the following informalities: The specification fails to label each section appropriately.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 27 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 27 is drawn to functional descriptive material NOT claimed as residing on a computer readable medium. MPEP 2106.IV.B.1(a) (Functional Descriptive Material) states:

“Data structures not claimed as embodied in a computer-readable medium are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer.”

“Such claimed data structures do not define any structural or functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure’s functionality to be realized.”

Claim 27, while defining a “computer program”, does not define a “computer-readable medium” and is thus non-statutory for that reasons. A “computer program” can range from paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggests amending the claim to embody the program on “computer-readable medium” in order to make the claim statutory.

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“In contrast, a claimed computer-readable medium encoded with the data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure’s functionality to be realized, and is thus statutory.” - MPEP 2106.IV.B.1(a)

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "said interactive content data" in lines 18-19. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-5, 8, 11-18, 21 and 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,590,262 to Isadore-Barreca in view of US 5,708,845 to Wistendahl et al. (“Wistendahl”).

As to claim 1, Isadore-Barreca discloses an apparatus for associating data representative of an object with a digital video programme including:

Means for providing a digital video programme having plural individual frames at least some of which incorporate said object (column 5, lines 49-52),

Means for parsing the video programme by identifying separate shots in the video programme to produce an edit list (column 6, lines 33-61),

means for identifying shots containing related content to form a sequence of shots containing related content (column 6, lines 33-61, wherein in and out points define sequence boundaries and a sequence corresponds to a scene or series of shots with related content),

means for selecting at least one key-frame from within each sequence of shots (column 7, lines 31-35),

means for selecting said object within the key-frame with which data is to be associated (column 9, lines 51-58, wherein hot spots correspond to object within the key-frame),

means for extracting attributes of the object from the key-frame (column 10, lines 35-38, wherein hot spot coordinates correspond to attributes of the object),

means for associating interactive data with the object in the key-frame (column 9, lines 13-17 and column 10, lines 50-53),

whereby said interactive data is associated with the object in the sequence of shots and said interactive content data is embedded with data representative of said object in a data sequence (column 9, lines 13-17 and column 10, lines 50-53).

Isadore-Barreca does not disclose expressly tracking means for utilizing the attributes of the object for tracking the object through the sequence of shots.

However, Wistendahl discloses an apparatus for associating data representative of an object with a digital video programme including:

means for selecting said object within the key-frame with which data is to be associated (column 11, lines 25-35),

means for extracting attributes of the object from the key-frame (column 11, lines 41-44, wherein N Data corresponds to attributes of the object),

means for associating interactive data with the object in the key-frame (column 11, line 66 – column 12, line 8),

tracking means for utilizing the attributes of the object for tracking the object through the sequence of shots (column 11, lines 3-44),

whereby said interactive data is associated with the object in the sequence of shots and said interactive content data is embedded with data representative of said object in a data sequence (column 6, lines 21-39).

Isadore-Barreca & Wistendahl are combinable because they are from the same art of image processing, specifically associating interactive data with an object in a video sequence.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide the apparatus disclosed by Isadore-Barreca with the tracking means as taught by Wistendahl.

The suggestion/motivation for doing so would have been that the motion tracking tool saves the author from having to draw the outline around the object in each frame of the sequence (Wistendahl, column 11, lines 20-22).

Therefore, it would have been obvious to combine Isadore-Barreca with Wistendahl to obtain the invention as specified in claim 1.

As to claim 2, the combination of Isadore-Barreca and Wistendahl disclose an apparatus as claimed in claim 1, wherein the means for identifying shots containing related content to form a sequence of shots containing related content includes means for producing a hierarchy of groups of shots (Isadore-Barreca, column 7, line 51 – column 8, line 19).

As to claim 3, the combination of Isadore-Barreca and Wistendahl discloses an apparatus as claimed in claim 1, wherein said means for parsing include means for inputting criteria to be used to recognize a change of shot (Isadore-Barreca, column 6, lines 47-61, in and out points correspond to criteria used to recognize a change of shot).

As to claim 4, the combination of Isadore-Barreca and Wistendahl discloses an apparatus as claimed in any of claims 1, wherein the means for extracting attributes of the object includes means for isolating the object within a boundary formed on the frame, means for performing edge detection within the boundary to identify and locate edges of said object, and storing means for storing a geometric model of said object (Isadore-Barreca, column 9, lines 62-67 and column 10, lines 35-38).

As to claim 5, the combination of Isadore-Barreca and Wistendahl discloses an apparatus as claimed in claim 1, wherein said means for extracting attributes of said object also includes

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means for recording at least one of the attributes of shape, size, position, colour, texture, statistics based on said attributes (Isadore-Barreca, column 10, lines 35-38, coordinates correspond to position).

As to claim 8, the combination of Isadore-Barreca and Wistendahl disclose an apparatus, as claimed in claim 1, wherein the means for utilizing the attributes of the object for tracking the object includes means for updating the stored attributes of the object as the attributes of the object change from frame to frame (Wistendahl, column 11, lines 3-24).

As to claim 11, the combination of Isadore-Barreca and Wistendahl disclose an apparatus as claimed in claim 1, wherein the means for associating interactive data with the object in the key-frame includes means for providing a database of different types of data including one or more of URLs, HTML pages, video clips, audio clips, text files and multimedia catalogues, and means for selecting said interactive content data from the database to associate with said object (Isadore-Barreca, column 11, lines 10-15 and Wistendahl column 6, lines 21-39).

As to claim 12, the combination of Isadore-Barreca and Wistendahl discloses an apparatus as claim in claim 1, wherein the means for associating interactive data with the object in the key-frame produces said data sequence using means for determining whether the embedded interactive content data is frame synchronous data associated with object positions, shapes, ranks and pointers in a frame, or group-synchronous data associated with all the objects in a group, or is data to be streamed just in time, wherein means for provided for associating

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frame synchronous data with the corresponding frame, means are provided for associating group synchronous data with the frame at which a group changes, and means are provided for streaming just in time data to a user before it is required to be associated with the corresponding objects (Isadore-Barreca, column 11, lines 10-15 and Wistendahl column 6, lines 21-39).

As to claim 13, the combination of Isadore-Barreca and Wistendahl disclose an apparatus as claimed in any of the preceding claims, wherein means are provided to associate different interactive content data with respectively different objects (Isadore-Barreca, column 11, lines 10-15 and Wistendahl column 6, lines 21-39).

As to claim 14, please refer to the rejection of claim 1 above.

As to claim 15, please refer to the rejection of claim 3 above.

As to claim 16, please refer to the rejection of claim 2 above.

As to claim 17, please refer to the rejection of claim 4 above.

As to claim 18, please refer to the rejection of claim 5 above.

As to claim 21, please refer to the rejection of claim 8 above.

As to claim 24, please refer to the rejection of claim 11 above.

As to claim 25, please refer to the rejection of claim 12 above.

As to claim 26, please refer to the rejection of claim 13 above.

As to claim 27, the combination of Isadore-Barreca and Wistendahl disclose a computer program comprising code means for performing all the steps of the method of claim 14, when the program is run on one or more computers (Isadore-Barreca, column 12, lines 1-7).

As to claim 28, the combination of Isadore-Barreca and Wistendahl disclose a computer program as claimed in claim 27, wherein the computer program is embodied on a computer-readable medium (Isadore-Barreca, column 12, lines 1-7).

Allowable Subject Matter

7. Claims 19, 20, 22 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claim 6, 7, 9 and 10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

USPN 6,205,231 to Isadore-Barreca et al. discloses an interactive video system.

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USPN 6,357,042 to Srinivasan et al. discloses an interactive video system.

USPN 6,449,608 to Morita et al. . discloses an interactive video system.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron W. Carter whose telephone number is (571) 272-7445.


The examiner can normally be reached on 8am - 4:30 am (Mon. - Fri.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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